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IBM Technical Disclosure Bulletins

**Term:** L37 and 17

**Display:** 10 **Documents in Display Format:** - **Starting with Number** 1

**Generate:** ○ Hit List ◉ Hit Count ○ Side by Side ○ Image

Search | Clear | Help | Logout | Interrupt

Main Menu | Show S Numbers | Edit S Numbers | Preferences | Cases

## Search History

**DATE: Wednesday, April 23, 2003** Printable Copy Create Case

| Set Name side by side | Query | Hit Count | Set Name result set |
|---|---|---|---|
| *DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ* | | | |
| L38 | L37 and l7 | 36 | L38 |
| L37 | L36 with l6 | 416 | L37 |
| L36 | liposome or lipid | 90360 | L36 |
| L35 | L34 and l7 | 1 | L35 |
| L34 | l29 and l4 | 12 | L34 |
| L33 | l29 same l4 | 0 | L33 |
| L32 | l29 with l4 | 0 | L32 |
| L31 | L30 and liposome | 1 | L31 |
| L30 | L29 and l7 | 3 | L30 |
| L29 | l27 with l6 | 500 | L29 |
| L28 | L27 same l26 | 0 | L28 |

| | | | |
|---|---|---|---|
| L27 | pulse generator | 104254 | L27 |
| L26 | l7 with l6 | 126 | L26 |
| L25 | l1 with gene therapy | 42 | L25 |
| L24 | l22 and l6 | 22 | L24 |
| L23 | L22 same l6 | 1 | L23 |
| L22 | gene therapy with l21 | 63 | L22 |
| L21 | l15 with l3 | 1167 | L21 |
| L20 | gene therapy with l16 | 30 | L20 |
| L19 | gene therapy with k16 | 0 | L19 |
| L18 | gene therapy with l2 | 30 | L18 |
| L17 | L16 same l6 | 2 | L17 |
| L16 | L15 with l2 | 302 | L16 |
| L15 | L14 or l13 | 362478 | L15 |
| L14 | encoding | 199103 | L14 |
| L13 | expressing or gene | 237378 | L13 |
| L12 | l6 same l5 | 19 | L12 |
| L11 | l6 with l5 | 7 | L11 |
| L10 | l8 and l5 | 1 | L10 |
| L9 | L8 same l5 | 0 | L9 |
| L8 | L7 with l6 | 126 | L8 |
| L7 | polyglycolic | 5918 | L7 |
| L6 | medical device or stent or catheter | 90865 | L6 |
| L5 | L4 with l3 | 1590 | L5 |
| L4 | dna or nucleic or polynucleotide or plasmid | 190751 | L4 |
| L3 | L2 or l1 | 54591 | L3 |
| L2 | peptide with antibiotic | 3933 | L2 |
| L1 | antimicrobi$ | 51804 | L1 |

END OF SEARCH HISTORY

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L17: Entry 1 of 2 File: DWPI Aug 1, 2002

DERWENT-ACC-NO: 2000-023275
DERWENT-WEEK: 200258

TITLE: Composition for coating medical devices with bioactive agent

INVENTOR: ANDERSON, A B; CHAPPA, R A ; CHUDZIK, S J ; KLOKE, T M

PRIORITY-DATA: 1998US-083135P (April 27, 1998), 1999US-0292510 (April 15, 1999), 2000US-0693771 (October 20, 2000), 2001US-0989033 (November 21, 2001)

PATENT-FAMILY:

| PUB-NO | PUB-DATE | LANGUAGE | PAGES | MAIN-IPC |
|---|---|---|---|---|
| DE 69901927 E | August 1, 2002 | | 000 | A61L029/00 |
| WO 9955396 A1 | November 4, 1999 | E | 025 | A61L029/00 |
| AU 9935638 A | November 16, 1999 | | 000 | |
| EP 1019111 A1 | July 19, 2000 | E | 000 | A61L029/00 |
| US 6214901 B1 | April 10, 2001 | | 000 | A61F002/04 |
| US 6344035 B1 | February 5, 2002 | | 000 | A61M025/00 |
| EP 1174157 A1 | January 23, 2002 | E | 000 | A61L029/00 |
| US 20020032434 A1 | March 14, 2002 | | 000 | A61K009/22 |
| JP 2002512856 W | May 8, 2002 | | 025 | A61L031/00 |
| EP 1019111 B1 | June 26, 2002 | E | 000 | A61L029/00 |

INT-CL (IPC): A01 N 1/00; A61 F 2/04; A61 K 9/00; A61 K 9/22; A61 K 31/78; A61 L 29/00; A61 L 31/00; A61 M 25/00; A61 M 29/00; B05 D 3/00

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L25: Entry 37 of 42 File: JPAB Aug 24, 1999

PUB-NO: JP411225762A
DOCUMENT-IDENTIFIER: JP 11225762 A
TITLE: ANTITUMOR AGENT

PUBN-DATE: August 24, 1999

INVENTOR-INFORMATION:

| NAME | COUNTRY |
|---|---|
| NAGAI, KOZO | |
| MORIYAMA, MASAMI | |
| SAITOU, MAKIKO | |
| KOUGO, YUTAKA | |
| FUJIMOTO, YOSHINORI | |

INT-CL (IPC): C12 N 15/09; A61 K 35/76; A61 K 48/00; A61 K 48/00; C12 N 5/10; C12 P 21/02; A61 K 38/00

L34: Entry 7 of 12 File: USPT Apr 17, 2001

DOCUMENT-IDENTIFIER: US 6219577 B1
TITLE: Iontophoresis, electroporation and combination catheters for local drug delivery to arteries and other body tissues

Abstract Text (1):
Catheter-based devices for enhancing the local delivery of drugs, pharmaceuticals, plasmids, genes, and other agents into the wall tissues of tubular compartments of the living body. One catheter device provides an electrical driving force that can increase the rate of migration of drugs and other therapeutic agents out of a polymer matrix into body tissues and cells using iontophoresis only. Another device uses iontophoresis only, electroporation only, or combined iontophoresis and electroporation. In the latter device, the two procedures may be applied sequentially in any order without removing or repositioning the catheter.

Brief Summary Text (2):
The present invention relates in general to devices for enhancing the local delivery of drugs, pharmaceuticals, plasmids, genes, and other agents into tissues or cells of the living body. In particular, the present invention relates to catheter-based devices which provide an electrical driving force that can increase the rate of migration of drugs and other therapeutic agents out of a polymer matrix into body tissues and into cells using iontophoresis only, electroporation only, or combined iontophoresis and electroporation. The two procedures may be applied sequentially in any order without removing or repositioning the catheter. In addition, the present invention relates to catheter devices which, if used in arteries, veins, or compartments of the heart to electrically enhance drug delivery to the tissues, do not seriously compromise blood flow through the vessel during treatment.

Brief Summary Text (20):
Accordingly, it is an object of the present invention to provide devices for electrically enhancing the local delivery of drugs, pharmaceuticals, plasmids, genes, and other agents.

Detailed Description Text (2):
The present invention is directed to devices for electrically enhancing the local delivery of treatment agents, such as drugs, pharmaceuticals, plasmids, genes, and other agents, into the wall tissues or cells of the living body. These devices are constructed and arranged to target certain tissue and cell locations and deliver the treatment agents directly to those locations, while minimizing any effects of the treatment agents on non-targeted tissues and cells.

Detailed Description Text (15):
As used herein, the term "electroporation" means the temporary creation of holes or aqueous pores in the surface of a cell membrane by an applied electrical potential and through which therapeutic agents may pass into the cell. Electroporation is now widely used in biology, particularly for transfection studies, where plasmids, DNA fragments and other genetic material are introduced into living cells. During electroporation pulsing, molecules which are not normally membrane permeant are able to pass from the extracellular environment into the cells during the period of induced reversible membrane permeabilization. The permeabilized state is caused by the generation of an electrical field in the cell suspension or tissue of sufficient field strength to perturb the cell surface membrane's proteolipid structure. This perturbation (sometimes referred to as dielectric breakdown) is believed to be due to both a constituent charge separation and the effect of viscoelastic compression forces within the membrane and it's sub-adjacent cytoskeletal structures. The result is a localized membrane thinning. At a critical external field strength, pores or small domains of increased permeability

are formed in the membrane proteolipid bi-layer.

Detailed Description Text (45):
When used for electroporation, the catheter may be connected to a suitable pulse generator. The generator sends pulses to the tissue across narrow electrode gaps. These pulses are preferably of a field strength (volts/cm.) in the range used for cell electroporation and generated at low and physiologically acceptable peak input voltages. For example a peak input voltage of, for example, 30 volts with electrode gap widths of 0.2 mm would give a field strength of 1.5 kV/cm. (i.e. 50.times.30 volts). A reduction in electrode gap width or an increase in input voltage would give a corresponding increase in field strength.

Detailed Description Text (48):
Iontophoretically enhanced delivery requires that the therapeutic agent carry a net charge under physiological conditions whereas electroporation alone would be used for delivering treatment agents that are not sufficiently ionized to iontophorese well into tissues. Electroporation may also be the preferred strategy for enhancing localized cellular targeting of a systemically administered agent such as in tumor chemotherapy. Anti-tumor, anti-mitotic or anti-neoplastic agents include, but are not limited to, alkaloids, anthracyclines, platinum conjugates, antimetabolites, DNA alkylating agents, antisense oligonucleotides, folic acid and purine antagonists, immunomodulators, interleukins antibody conjugates, anti-growth factors, and anti-angiogenic factors and the corresponding receptor antagonists, as also various phosphodiesterase and protein kinase inhibitors.